

Title (en)  
Heat radiator and power module

Title (de)  
Kühlkörper und Leistungsmodul

Title (fr)  
Dissipateur de chaleur et modul à haute prestation

Publication  
**EP 2306512 B1 20140903 (EN)**

Application  
**EP 11150797 A 20060705**

Priority  
• EP 06767882 A 20060705  
• JP 2005198288 A 20050707

Abstract (en)  
[origin: EP1901350A1] A heat radiator 1 includes an insulating substrate 3 whose first side serves as a heat-generating-element-mounting side, and a heat sink 5 fixed to a second side of the insulating substrate 3. A metal layer 7 is formed on the second side of the insulating substrate 3 opposite the heat-generating- element -mounting side. A stress relaxation member 4 formed of a high-thermal-conduction material intervenes between the metal layer 7 of the insulating substrate 3 and the heat sink 5 and includes a plate-like body 10 and a plurality of projections 11 formed at intervals on one side of the plate-like body 10. The end faces of the projections 11 of the stress relaxation member 4 are brazed to the metal layer 7, whereas the side of the plate-like body 10 on which the projections 11 are not formed is brazed to the heat sink 5. This heat radiator 1 is low in material cost and exhibits excellent heat radiation performance.

IPC 8 full level  
**H01L 23/36** (2006.01); **H01L 23/367** (2006.01); **H01L 23/373** (2006.01); **H01L 23/473** (2006.01); **H05K 1/02** (2006.01); **H05K 1/03** (2006.01); **H05K 3/00** (2006.01); **H05K 3/34** (2006.01)

CPC (source: EP KR US)  
**H01L 23/36** (2013.01 - KR); **H01L 23/367** (2013.01 - EP US); **H01L 23/3677** (2013.01 - EP US); **H01L 23/3735** (2013.01 - EP US); **H05K 3/0061** (2013.01 - EP US); **H05K 3/341** (2013.01 - EP US); **H01L 23/473** (2013.01 - EP US); **H01L 2924/0002** (2013.01 - EP US); **H05K 1/0306** (2013.01 - EP US); **H05K 2201/0373** (2013.01 - EP US); **H05K 2201/1028** (2013.01 - EP US); **H05K 2203/0405** (2013.01 - EP US); **Y02P 70/50** (2015.11 - EP US)

Cited by  
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DOCDB simple family (publication)  
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**EP 06767882 A 20060705**; CN 200680024815 A 20060705; EP 11150797 A 20060705; JP 2005198288 A 20050707; JP 2006313376 W 20060705; KR 20087003036 A 20080205; US 99489606 A 20060705